Grande Prairie Regional College
Department of Science

EG2100 – Engineering Graphics
Winter 2007
3.5 (2-1-3) UT

Course Outline

Sketching, drafting and interpretation of pictorials and multiviews of three-dimensional objects, visual design, introduction to scales, sectioning, and dimensioning are included in the course content. Use of CAD software is required for more than one-half of the course credit.
(Note: Chemical, Electrical, Computer Engineering and Engineering Physics at UA will not accept this course.)

Instructor	Tanvir Sadiq J 209, 539 – 2865, tsadiq@gprc.ab.ca
Meeting Times	T 15:40 - 17:00 J101 W 15:40 - 17:30 A305 R 15:40 - 17:00 J101
Text Book/Workbook	• Plantenberg, Kirstie: *Engineering Graphics Essentials with AutoCAD 2007 Instruction*, SDC Publications • Notes provided by Instructor

Course Objectives

Sketching

Develop 3D visualization abilities and improve freehand sketching skills through sketching exercises based on actual objects and 3D CAD models.

Engineering Drawings

Learn to read and draw standard engineering drawings and understand the theory of projections which is the basis of 2D engineering drawings. Multiview drawings, sectional and auxiliary views, dimensioning and tolerancing, and working drawings will be introduced using freehand sketches and AutoCAD drawings.

Computer-Aided Design

Develop basic skills in computer solid modeling.

Marks Distribution

Assignments/Sketch Books	5%
Sketching Labs	10%
AutoCAD Labs	10%
Exams + Project	55% + 20%

Marking Method

Marking of engineering sketches have objective and subjective components. Drawing mistakes and errors include drawn elements inconsistent with drawing standards and conventions as well as omissions and missing drawing elements. The evaluation of neatness, clarity and quality is subjective. Markers do not have the time to comb through all the fine aspects of a submitted work. A satisfactory drawing is always easy to spot when you see it. Therefore, submitted assignments and lab work will be marked using the following scale.

Mark	Interpretation	Numerical Score
+	Superior, exceeds expectations, professional	4
	Satisfactory, meets expectations	3
-	Incomplete or below standard; need more care and attention	2
	Not submitted or not on time; too many errors and major deficiencies; insufficient effort	0

- Illegible lettering on any submitted work will result in a score of zero.
- Photocopies will not be accepted and will receive a score of zero.
- Late work will NOT be accepted.

Materials:

- 0.5 mm mechanical pencil, F or HB lead
- Workbook
- Data storage media

AutoCAD Drawing Assignments

All drawings must be printed and handed in to the instructor at the end of the lab. AutoCAD drawing files must be named as instructed and uploaded via Digital Dropbox feature of *Blackboard*. *Print outs will be marked only if the corresponding drawing files are uploaded. However, only one or two drawing files chosen at random will be checked for accuracy. Files with incorrect names and in the wrong folders/directories will not be marked.*

AutoCAD Project*

AutoCAD projects are group projects. Each group will submit a project proposal before midterm exam week. Further instructions will be provided by the instructor at a later date.

Note: You will not learn 3D solid models in AutoCAD until near the end of the course However, you should gather all the relevant information such as dimensions, etc. and sketch out your final drawing as soon as possible so you can quickly jump into the project drawing in the last two weeks of the course. Your report must include sketches, research, design criteria and other information leading to the final design.

** Project may be replaced by a comprehensive exam.*

Marking Symbols

The following symbols will be used to identify errors or areas requiring improvement.

Notation	Meaning
+	too big, too much, too heavy, too dense, . . .
-	too small, too little, too light, too sparse, . . .
LW	line weight
LQ	line quality (straightness, evenness, . . .)
LC	line contrast
LP	lines not parallel or perpendicular
DI	distorted figure
CL	construction lines not used or to heavy
TX	unsatisfactory text and lettering
PP	proportions
AC	accuracy
SC	choice of scale
CV	curvature problems with circles, arcs, ellipses and general curves
VP	viewpoint not a good choice, wrong choice of views
SH	shading
DE	detail
XH	section lining/hatching
MV	misaligned views
TB	border/title block errors